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Application of the National Academies' Recommendations in the Publication **"**Research Universities and the Future of America: Ten Breakthrough Actions Vital to Our Nation's Prosperity and Security" to a Division within a Research University

A Capstone Project Paper Submitted to the
Krieger School of Arts and Sciences

Advanced Academic Programs

in Partial Fulfillment of the Degree of
Master of Science in Research Administration

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April 2017

Executive Summary

In the fall of 2015, the Division of Nuclear Medicine ("Division"), a twelve million dollar research division at an institution of higher education (IHE) ("Institution"), was in administrative shambles, and lacked many policies and financial controls. The National Academies of Sciences, Engineering, and Medicine ("National Academies") 2012 publication, "Research Universities and the Future of America: Ten Breakthrough Actions Vital to Our Nation's Prosperity and Security" was used as a plan for enabling change within the Division.

For this capstone project, the author examined the ten recommendations and analyzed each recommendation to see if they could be applied to the Division in order to improve the research administration tasks within the Division. Using data from secondary and tertiary data sources, the author constructed a plan on how to apply the recommendations and implemented them in the Division. At the end of the project, an evaluation survey was sent to all research administration personnel in the division to examine the results of the capstone project and assess the status of the Division on research administration issues related to job satisfaction, job contributions, innovation, and good stewardship of sponsored research. However, only twenty-five percent of the survey recipients responded to the survey, which was voluntary.[1] With only a twenty-five percent response rate it was difficult to determine if an overall improvement occurred in the Division in the specified areas as a result of the application of the National Academies' Committee on Research Universities and Board on Higher Education and Workforce's recommendations.

[1] Pew Research Center [Pew], "Collecting Survey Data", *U.S. Survey Research*, http://www.pewresearch.org/methodology/u-s-survey-research/collecting-survey-data/.

For many of the recommendations, the Divisional Administrative Staff were supported the changes; the Divisional Faculty were not supportive of the changes. There was also a lack of Department engagement with the Division, especially in the areas regarding finances, which is concerning as the Division is in the Department and the Division's finances directly effects the Department's finances.

This project demonstrated that even with a high level of effort and knowledge into the creation and implementation of best practices, these efforts become moot if the majority of persons involved are not onboard and interested in seeing that the changes occur. While the ten recommendations were able to be applied to the Division and could be applied to other divisions, departments, and institutions to improve the research administration tasks, it is the author's determination that the environment, administration, and faculty engagement would be a deciding factor in the success of the application of these recommendations.

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Chapter 1

Introduction

In the fall of 2015, the Division of Nuclear Medicine ("Division"), a twelve million dollar research division at an institution of higher education (IHE) ("Institution"), was in administrative shambles, and lacked many policies and financial controls. The Division resides within the Department of Radiology ("Department"), at the Institution, which is also a "research university". In looking for a plan for improvement, the author, who is the Division Administrator, consulted with the leaders of research in the Division, together they decided that the National Academies of Sciences, Engineering, and Medicine ("National Academies") 2012 publication, "Research Universities and the Future of America: Ten Breakthrough Actions Vital to Our Nation's Prosperity and Security" presented a possible plan for enabling change within the Division.[2] The National Academies is a respected, nonpartisan institution of scholars, and is frequently used by Congress and other institutions to address specific scientific problems in the U.S.[3] This publication was requested by Congress to discover what it would take to maintain excellence in research in the United States (U.S.) to compete, prosper, and achieve national goals.[4]

For this capstone project, the author examined the ten recommendations and analyzed each recommendation to see if they could be applied to the Division in order to improve the research administration tasks within the Division. This particular publication from the National Academies was chosen due to its focus on research universities and the straightforward nature of

[2] NAP. *Research Universities and the Future of America*, i-225.
[3] Nationalacademies.org, accessed March 2017, http://www.nationalacademies.org/index.html/.
[4] NAP. *Research Universities and the Future of America*, ix-xi

the ten specific recommendations. Using data from secondary and tertiary data sources, the author constructed a plan on how to apply the recommendations and implement them in the Division. At the end of the project, an evaluation survey was sent to all personnel in the division to examine the results of the capstone project by assessing the status of the Division through their perceptions on research administration issues.[5]

The National Academies' Report and Publications Process

The United States (US) has enjoyed economic prosperity, mostly due to investments that the government has made in research at universities and national laboratories since the twentieth century. However, since early in the twenty-first century, the U.S. has been losing its lead in research innovation and technology development. Pressure on the success of the research enterprise led the U.S. Congress to request reviews by the National Academies over the last decade to determine what is occurring and needed to facilitate research innovation and technology development.[6]

To facilitate the dissemination of reports on issues affecting science, engineering, and medicine, Congress created the National Academy Press. "The National Academies Press (NAP) was created by the National Academy of Sciences to publish reports of the National Academies […], operating under a charter granted by the [U.S.] Congress".[7] Their reports are high quality and help to shape policies and to advance science, engineering, and medicine.[8]

[5] Ibid.
[6] Ibid ix.
[7] The National Academies Press [NAP], *About the National Academies Press*, accessed March 2017, https://www.nap.edu/content/about-the-national-academies-press.
[8] National-academies.org, accessed March 2017, http://www.national-academies.org/about/whoweare/index.html/.

The National Academies' process for a publication on a given research topic begins with a "statement of task" from the sponsor(s), that helps to determine the expertise needed for the study.[9] The sponsors are most often federal agencies, though sometimes state agencies and foundations are also sponsors. Then a committee is selected, consisting of experts in the field and is balanced based on experience and perspective. The committee members are also screened for conflict of interest, with considerations given for previous committee members. In addition, efforts are made for the inclusion of women, minorities, and young professionals on the committee. Once the committee is confirmed, they meet in meetings that are open to the public, they acquire information from outside sources, review scientific literature, and undergo additional investigations into the topic. The committee then deliberates in closed meetings to avoid any outside influences in the recommendations and to develop drafts of the findings. Efforts are made to ensure that the final report is impartial and objective, and that the "findings are supported by the scientific evidence and arguments presented, that the exposition and organization are effective".[10] NAP then takes the committee's report and publishes them as books.[11]

Research Universities and the Future of America

The NAP publication "Research Universities and the Future of America: Ten Breakthrough Actions Vital to Our Nation's Prosperity and Security", written by the National Academies' Committee on Research Universities and the Board on Higher Education and Workforce, states that the "nation's primary source of both new knowledge and graduates with

[9] Ibid.
[10] Ibid.
[11] NAP, *About the National Academies Press.*

advanced skills continues to be its research universities".[12] The publication also goes on to say that research universities have many challenges and "even as other nations around the world have emulated the United States in building research universities to drive economic growth, America's commitment to sustaining the research partnership that built a great industrial nation has weakened under these pressures".[13]

The publication provided an answer to a question asked by Congress:

> "What are the top ten actions that Congress, state governments, research universities, and others can take to maintain the excellence in research and doctoral education needed to help the United States compete, prosper, and achieve national goals for health, energy, the environment, and security in the global community of the 21st century?"[14]

The publication discussed that despite the U.S. having "current global leadership", U.S. "research universities are facing critical challenges".[15] These challenges involve decreased revenue due to the reduced availability of funding in partnerships between the federal government, states, businesses, and universities, low student enrollment due to high tuition costs, and reduced donor gifts from the recession. Another challenge is global competition as other nations invest in research universities and are "offering attractive opportunities to repatriate their citizens who are graduates of U.S. universities".[16]

These challenges are similar to those in the Division. The publication was viewed as being directly applicable to the Division's current issues and was selected due to the specific issues it addressed regarding research universities and key action points that it presented which

[12] NAP. *Research Universities and the Future of America*, 1.
[13] Ibid.
[14] Ibid, 1-2.
[15] Ibid, 3.
[16] Ibid, 4-5.

could be used for improvement in those specific areas.[17] The ten recommendations made in the publication were created by the Committee and the Board to address these challenges, and that "strong leadership—and partnership—will be needed […] if our research universities and our nation are to thrive".[18]

The Division of Nuclear Medicine and the Department of Radiology

In 2015, there had been a lot of turnover in the Division and the Department. In the Department research administration office, the Sponsored Administrator and all the Sponsored Analysts had quit in the summer of 2015. Pre-award functions were being farmed out to the Department of Oncology and post-award management was being completely neglected. A replacement Sponsored Administrator was hired in the fall of 2015 and had started to hire replacement Sponsored Analysts. There were also no Departmental or Division policies and procedures that were written down. Department leadership seemed unprepared and uninformed on how to manage a research division, even though they had each been in their current positions within the Department for at least ten years. There was an imbalance of assigned work and an absence of transparency that contributed to a lack of functionality in the Department and the Division.

In the Division, there was a new Division Director, who had been appointed in the summer of 2015 and brought his large research group with him, which doubled the number of researchers and the need for supportive research personnel in the Division. The Division was already administratively understaffed before the new Division Director arrived, based on an assessment of the volume of research and the inclusion of eleven new researchers that were

[17] Ibid, xi-xii
[18] Ibid, 4-5.

added. At this time, the Division was also recovering from a major flood that occurred due to a burst pipe, and damaged many of the administrative offices and computer labs. Then in the winter of 2016, the Department Chair left the Institution, and a new Interim Department Chair was appointed. This was a time in which there was a lack of direction within both the Division and the Department.

Chapter 2

Statement of the Problem

The Division, due to high turnover and lack of guidance, was in turmoil. As a result of this lack of direction, there was no oversight of job functions and performance by Divisional Staff. Research administration job functions were being duplicated and duties were be performed outside of an employee's job description. There was a lack of financial controls and a lack of policy and procedures for the administration of research.

The project goals for this capstone paper were to analyze and implement the ten recommendations from the National Academies' Committee on Research Universities and the Board on Higher Education and Workforce in the Division. Then to assess the results to determine if the application of the ten recommendations resulted in greater job satisfaction of staff, greater job contributions, innovation, and good stewardship of sponsored research. There were several limitations that hindered the implementation process; institutional policies, divisional and departmental politics, and faculty and staff engagement and motivation.

Significance of the Project

The significance of this project was to create better and more efficient Division policies and procedures for research administrators when performing their jobs Furthermore, by analyzing the outcomes of this project, the author believed that the results could be applied to other divisions, departments, and academic settings both locally and nationally.

Chapter 3

Methodology

The methodology that was used by the author to design this project was to analyze each of the recommendations from the National Academies' Committee on Research Universities and the Board on Higher Education and Workforce and to determine if the recommendations or parts of the recommendations were applicable to the Division. Some of the recommendations had to be adjusted as certain key points were either not available or unattainable within the Division. Each of the applicable key points described in the recommendations were researched by the author, using secondary and tertiary sources to determine best practices for each key point. These best practices were what was used as data in designing and revising the ten recommendations as they applied at the Divisional level.

At the end of the capstone project, an evaluation survey created by the author, was sent to all personnel currently working in the Division requesting for them to answer ten questions related to job satisfaction, job contributions, innovation, and good stewardship of sponsored research. The survey was based on discovering whether the implementation of the ten National Academies' recommendations had impacted the staff in these critical areas.

Chapter 4

Data

To research the best practices of the key points from the National Academies' Committee on Research Universities and the Board on Higher Education and Workforce, both print and electronic, secondary and tertiary sources were analyzed to obtain this data. The key points that were determined to be essential to the implementation of the project included improvements in the following areas:

1. management and leadership
2. policies and procedures
3. cost efficiency and budgetary waste
4. financial reporting
5. funding sources
6. endowments
7. cost sharing including NIH cost sharing
8. facilities and administrative costs
9. improvements to technology transfer
10. management of intellectual property
11. industry partners
12. National Institutes for Health (NIH) T32 training grant
13. recruiting women and underrepresented minorities, and foreign nationals

Management and leadership. "Management is a multidisciplinary activity, consisting of both theory and practice." [19] There are several key management concepts and principles that are relevant to improving operations. Such as the speed and efficiency of primary functions within an organization, which can be "important drivers of its performance".[20] "All organizations rely on implicit and explicit data and knowledge to support operations."[21] This can be critical to performance, as can the human component. "Managers, staff members, customers, and consultants influence operating performance via their decisions, actions, preferences, biases, and other behaviors."[22]

Ethics, accountability, and transparency should be how an organization conducts business as they are "accountable for its actions and its outcomes".[23] If values that are promoted externally are not conducted internally, then the organization will "be dismissed by staff, our best employees will leave, morale will plummet, and we won't get the most out of our employees".[24] "People want to be informed."[25] Personnel will look to leadership for guidance on how to act ethically. If personnel are taking shortcuts, it may be due to the tone set by leadership.[26]

Policies and procedures. This is a concept that is considered necessary in the field of research administration, especially in the area of grants and contracts accounting. Having a lack of documentation is considered a huge risk and liability to the success of the operation of the organization. To run a successful research administration operation, there is a significant amount

[19] Hopp, Wallace J. and William S. Lovejoy, *Hospital Operations: Principles of High Efficiency Health Care,* (Upper Saddle River: Pearson Education, 2013), 498.
[20] Ibid, 497-498.
[21] Ibid, 498.
[22] Ibid.
[23] Brinckerhoff, Peter C., *Mission-Based Management: Leading Your Not-For-Profit in the 21st Century.* (Hoboken: John Wiley and Sons, 2009), 55.
[24] Ibid, 56-57.
[25] Ibid, 63.
[26] Ibid, 64.

of information to be disseminated, which cannot generally occur over a face-to-face meeting and needs to be available for reference. This causes a need for clear and consistent documentation to describe the necessary operations and any policies that management wishes to enforce.[27]

While many policy and procedure manuals are situational and organizationally specific, there are several policy and procedure manuals that are considered basic and necessary to a functioning organization. The following would be recommended and applicable to any organization, including an IHE: fiscal year budget manual, which would describe the actions and steps needed and who should be taking them; capital equipment manual, which would include service agreements, and procedures for budget approval, any renovations needed for installation, and how to dispose of old equipment; purchasing cards and travel reimbursement manual; a forms manual, detailing any forms needed within a division or department, though this manual could likely be included in other manuals; user or an on-boarding manual, which would contain all pertinent information to function within a division, such as a list of employees by function, charts of accounts, and a list or map of space retained by the organization. Additionally, it is also important to create policies and procedures that can grow and change. The procedure for which should also be documented so that all the manuals can stay current and applicable.[28]

Cost efficiency and budgetary waste. While reducing the workload is typically not possible, there are ways to increase capacity. This can be done by increased resources, such as personnel. However, this creates additional costs, so other avenues should be explored first. Some of these avenues are to eliminate steps or tasks, reducing the processing time of tasks,

[27] Steven M. Bragg, *Accounting Policies and Procedures Manual: A Blueprint for Running an Effective and Efficient Department, Fifth Edition*. (Hoboken: John Wiley & Sons, 2007), https://play.google.com/store/books/details?id=tBdPGtY_Lx0C&rdid=book-tBdPGtY_Lx0C&rdot=1&source=gbs_vpt_read&pcampaignid=books_booksearch_viewport.
[28] Ibid.

balancing workloads between personnel, and improving synchronization to allow for fluctuations, which will reduce congestion due to variability.[29]

Improving cost efficiency and reducing budgetary waste starts with a budget. "A budget is a plan for getting and spending money to reach specific goals by a specific time."[30] A budget allows for business strategy, allocation of resources, control, and it provides "a means of communication to internal and external audiences" by showing profit, loss, and any cost efficiencies and budgetary waste.[31] A budget can even reflect which programs and services are receiving attention and which are not, showing their importance within the group. [32]

With improved cost efficiency, more funds can be devoted to allocating resources for more programs and services, or expanding current ones, some of which may be essential to performing core functions. It can also help determine if these programs are ancillary or merely auxiliary.[33] Ignoring these budgetary and financial numbers "is a key mistake that managers who were not trained in business make". [34]

Financial reporting. Translating financial information to the persons responsible, including responsible faculty, i.e. the Principal Investigator (PI), for sponsored programs through financial reporting is key. However, the financial reports may need to be tailored to the PIs as the information they need to complete their sponsored programs is likely different than information needed by administrative management. It is important to note that all sponsored programs must be analyzed separately due to variances in sponsor requirements, funding amounts, and project

[29] Hopp and Lovejoy, 563-566.
[30] Margaret J. Barr and George S. McClellan, *Budgets and Financial Management in Higher Education* (San Francisco: Jossey-Bass, 2011), 55.
[31] Ibid.
[32] Ibid, 57-61.
[33] Ibid, 57.
[34] Brinckerhoff, 201.

periods. “Financial reports provided to the PI should focus on the conduct of the science; these describe the total financial resources available to the sponsored agreement, how those resources can be applied.”[35] Additional supplemental information to the PI financial reports can include forecasting and indications of significant budget variances. [36]

Tailored financial reporting can also help divisions or departments in key areas. Reports can be created to convey if research volume is increasing or decreasing, individual growth in the number of faculty sponsored program, projections on future funding, funding pattern changes, and if there are enough funds to support any necessary cost sharing.[37]

Funding sources. These can be identified as internal, those received from inside the organization, and external as those from sponsored sources outside the organization. External funding is proposal dependent and award rates and amounts can vary widely. Ensuring stability here can be difficult.[38] There are also internal sources of funding, these generally come from non-sponsored funds that are from student tuition, indirect costs from sponsored projects, and gifts from donors. These amounts can also vary widely from year to year.[39]

Margaret J. Barr and George S. McClellan recommend having budget reduction strategies in lean times and strategies for budget opportunities during prosperous times. Strategies for budget reductions are a budget “freeze”, which puts certain expenses on hold; “across-the-board cuts” where the entire budget for the division or the department would be cut by a percentage; targeted reductions, which would just place cuts in certain areas, like travel or administrative

[35] Elliott C. Kulakowski and Lynne U. Chronister, *Research Administration and Management* (Boston: Jones and Bartlett, 2006), 413-414.
[36] Ibid.
[37] Ibid, 414.
[38] Ibid, 249-251.
[39] Barr and McClellan, 163-170.

expenses; restructuring, which typically calls for combining certain programs and reducing administrative overhead; and just the elimination of certain programs.[40] Strategies during prosperous times are typically the opposite of those used during budget reductions. An example would be to invest in new programs instead of cutting them or having targeted investments instead of targeted reductions.[41]

Facilities and administrative costs. Direct costs are expenses that can be easily assigned to a specific project. Costs that cannot are typically considered indirect. These indirect costs (IDC) can be assigned into either a "facilities" or an "administrative" category and are recovered under a federally negotiated rate.[42] However, there is a twenty-six percent cap on the administrative category in the IDC rate for IHEs. This means that IHEs are likely already cost sharing their cost of research on federal sponsored awards.[43] In addition, costs that cannot be directly charged to federal sponsored awards but that are included in the calculated cost of IDC rate, such as salaries, must "be allocated their equitable share of the non-Federal entity's indirect costs".[44]

Endowments and cost sharing. Having endowments and other gifts in interest-bearing accounts can be one of the best ways to secure a constant stream of funds.[45] These funds can be used in cost sharing or matching. However, it is important to note that some gifts may be restricted to only certain types of activities or research.[46]

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[40] Ibid, 169-179.
[41] Ibid, 179-184.
[42] Code of Federal Regulations [CFR], *Direct and Indirect (F&A) Costs*, 2 C.F.R. 200.412-414, accessed March 2017, http://www.ecfr.gov/cgi-bin/text-idx?SID=8201e2de8b463195d3ad77a1606fb431&mc=true&node=sg2.1.200_1411.sg13&rgn=div7.
[43] *Indirect Costs 101 How NIH Supports Research Infrastructure for Extramural Research*, YouTube video, 22:45, post by Dr. Sally Rockey, NIH Deputy Director for Extramural Research, September 11, 2015, https://www.youtube.com/watch?v=1XvVibv2opQ.
[44] 2 C.F.R. 200.414(e)
[45] Brinckerhoff, 198.
[46] Kulakowski and Chronister, 161.

There is an "economic impact of cost sharing" to an institution.[47] In addition to the administrative time in managing it, it can also have "the potential to impact the federal negotiated facilities and administrative (F&A) cost rate of an institution" by reducing the rate of F&A recovery.[48]

The National Institutes of Health (NIH) restricts the amount of salary that can be charged as a direct cost to their sponsored awards for grants and cooperative agreements. The amount changes every year and is released in an annual notice. Many PIs and other key personnel on NIH awards have annual salaries that are higher than the NIH cap and the difference must be cost shared by the IHE. Recipients of NIH awards are allowed to rebudget their awards if they have the funds, without prior permission, to accommodate this annual increase to the amount of salary that can be charged. The NIH does not award additional funds to accommodate this annual change.[49]

Improvements to technology transfer. Technology transfer is the "transfer of the results of research from universities to the commercial sector".[50] This is usually facilitated by a separate central office and can occur by a "physical transfer of a tangible product of research or through the relative complexity of an intellectual property licensing program".[51]

Improvements to technology transfer can be made by spreading innovation and entrepreneurship throughout university campuses. This can be done by identifying and empowering "faculty champions" who can "lead and boost the entrepreneurial spirit of the

[47] Ibid, 442.
[48] Ibid, 442-444.
[49] National Institutes of Health [NIH], *Interim Guidance on Salary Limitation for Grants and Cooperative Agreements*, (Notice Number: NOT-OD-17-049, March 17, 2107), https://grants.nih.gov/grants/guide/notice-files/NOT-OD-17-049.html.
[50] Kulakowski and Chronister, 627.
[51] Ibid, 627-628.

university", centralizing those efforts, celebrating successes, working with leadership, and leveraging research findings.[52]

Management of intellectual property. The definition for IP is in the United States Constitution, Article 1, Section 8: "The Congress shall have Power—to promote the progress of Science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."[53] Management of IP begins with an IP policy. While these can vary by institution, the three common themes are: "ownership of IP, obligations and responsibilities of the parties, accounting for income, expenses, and royalty distribution".[54] Persons covered under the policy should also be defined, along with responsibilities, and a clear breakdown of royalty distribution.[55]

Industry partners. Partnering with industry allows for the development and commercialization of research. These partnerships could be "strategic alliances" which would be a collaboration to "achieve some specific corporate objective", a "joint venture" in which "two or more organizations to undertake the same business strategy and plan of action", or other variations.[56] Industry can provide funding for research IHEs and also provide income to them from royalties from the licensing of developed research.[57]

Ruth L. Kirschstein Institutional National Research Service Award (T32). This grant awarded by the National Institutes of Health (NIH) provides funding for a program to train predoctoral students and postdoctoral researchers. These types of funding mechanisms not only

[52] David Schwartz, "Universities Can Boost Their Entrepreneurial Ecosystems," *Tech Transfer eNews Blog*, March 19, 2017 (8:40 p.m.), http://autmvisitors.net/news/universities-can-boost-their-entrepreneurial-ecosystems.
[53] Kulakowski and Chronister, 628.
[54] Ibid, 653.
[55] Ibid, 654-660.
[56] Ibid, 355-365.
[57] Ibid.

provide funding for these students, but also contributes to innovative discoveries as young researchers are more likely to explore fresh ideas. It also gives the federal agencies oversight and peer review on how the number of trainees and the quality of their training. This also keeps trainees off of research grants, where award amounts can either be reduced or reallocated to other aspects of the project.[58]

Recruiting women and underrepresented minorities. It is important to recruit both women and underrepresented minorities as a highly diverse team typically generates more innovative ideas and are better at problem solving than a group that is more alike to one another. The "diversity of experiences provides richer educational environments for students and faculty".[59] However, diversity will not automatically lead to more innovation as all the individuals in the group have to be included. Part of diversity is also changing the culture where all participants in the group have a voice and different perspectives are encouraged. Often this culture change comes from the mentor/mentee relationship and other peer supported networks.[60] There are also diversity supplements available from NIH that assist in recruiting and financially supporting students, postdoctoral researchers, and principal investigators from underrepresented groups.[61]

Foreign nationals. There has been a steady increase in foreign-born and foreign national scientists in the last twenty years. This was attributed to the technology boom that started in the

[58] Rubin, Jaime S., Ph.D., *Best Practices and Effective Grantsmanship for Competitive NIH Institutional Research Training Grant Applications,* (PowerPoint pdf, posted by Columbia University, December 2016), http://grantscourse.columbia.edu/RubinJaime_Training_Grants.pdf.
[59] Ashanti Johnson and Melanie Harrison Okoro, "How to Recruit and Retain Underrepresented Minorities," *American Scientist,* Vol. 104, No. 2 (March-April 2016): 76, accessed March 2017, http://www.americanscientist.org/issues/pub/how-to-recruit-and-retain-underrepresented-minorities.
[60] Ibid.
[61] "Frequently Asked Questions (FAQS) About: Research Supplements to Promote Diversity in Health-Related Research (Diversity Supplements)," *NIH*, accessed March 2017, https://www.drugabuse.gov/about-nida/organization/offices/office-nida-director-od/odhd/faqs-about-research-supplements-to-pro.

mid-nineties. While many foreign nationals arrived with advanced degrees, the majority of foreign nationals were products of U.S. graduate programs who stay in the U.S. after graduating. Yet with the economies of India, China, and South Korea growing faster than that of the U.S., many graduates are going back to their own countries after graduation.[62]

However, there is still a significant presence of foreign students in U.S. colleges and universities with the number of F-1 visas growing from 110,000 to 524,000 from 2001 to 2012. Foreign students are also disproportionately studying STEM and business fields over other disciplines and forty-five percent of foreign student graduates extend their visas to work in the same area. Their presence contributes not only to tuition payments to the colleges and universities they are attending but also other spending associated with living in the vicinity of the college or university they are attending.[63]

Evaluation Survey

At the end of the capstone project, an evaluation survey was designed and sent by the author to all personnel currently working in the Division to examine the results of the capstone project by assessing the status of the Division through their perceptions on research administration issues. The survey was a list of ten multiple choice questions (See Appendix: Evaluation Survey and Results) related to job satisfaction, job contributions, innovation, and good stewardship of sponsored research. The results were de-identified and sent electronically to the author, who analyzed the data.

[62] Mary Mederios Kent, "More U.S. Scientists and Engineers Are Foreign-Born," *Population Reference Bureau*, accessed March 2017, http://www.prb.org/Publications/Articles/2011/usforeignbornstem.aspx.
[63] Neil G. Ruiz, "The Geography of Foreign Students in the U.S. Higher Education: Origins and Destinations," *Brookings*, (August 29, 2014), accessed March 2017, https://www.brookings.edu/interactives/the-geography-of-foreign-students-in-u-s-higher-education-origins-and-destinations/.

Participation and the participants. There were ninety-two recipients of the survey and only twenty-three recipients completed the survey, which is only a twenty-five percent response rate. Forty-three percent of the participants were faculty, twenty-six percent were administrative or financial staff, seventeen percent were research staff, and thirteen percent were postdoctoral employees or students. Of the participants, there was an even range of how long they had been in the Division, ranging from less than a year to over twenty years. Sixty percent of the participants had only ever worked in the Division.

Of the twenty-three participants, forty-eight percent felt respected by both faculty and staff, forty-eight percent answered that it depended on the individual person, and just four percent of the participants responded that they did not feel respected by either faculty or staff. Ninety-two percent of the recipients either liked or loved their job, while eight percent generally did not like their job. However, seventy-eight percent of participants considered their job and everyone else's job as necessary to the research enterprise. Thirteen percent considered their job necessary to the research enterprise but that many other positions were not necessary to the research enterprise.

The research enterprise in the Division. Forty-eight percent of the participants considered the Division personnel to be global leaders in their field, while thirty-nine considered the Division only innovative and not global leaders. Additionally, seventy-seven percent of participants were either extremely satisfied to somewhat satisfied with Department Leadership's investment in the research enterprise.

One of the survey questions asked about the Divisional and Departmental personnel following institutional policies, only fifty-two percent of recipients responded that some personnel follow the institutional policies, while others do not. Thirty-nine percent responded

that they are always followed institutional policies, and nine percent responded that they did not know the institutional policies. The participants also responded regarding good stewardship of the sponsored research funding in the Division. Thirty-nine percent of the participants stated that there was good stewardship, which fifty-six percent responded that it depended on the situation as to whether there was good stewardship of sponsored research funding.

Chapter 5

Discussion and Results of the Application of the Ten Recommendations

The National Academies' Committee on Research Universities and the Board of Higher Education and Workforce published a list of ten recommendations. These recommendations were applied to the Division. In some cases the recommendations were modified in order for them to be implemented in a manner that fit the needs of the Division. In addition, one of the recommendations was not implemented in this project because it applied to public institution of higher education and the Division was located in a private institution of higher education.

Committee on Research Universities and the Board of Higher Education and Workforce's Recommendation #1

> "Within the broader framework of United States innovation and research and development (R&D) strategies, the federal government should adopt stable and effective policies, practices, and funding for university performed R&D and graduate education so that the nation will have a stream of new knowledge and educated people to power our future, helping us meet national goals and ensure prosperity and security."[64]

Discussion of Recommendation #1. The key points from this recommendation were to adopt stable and effective policies, procedures and funding sources. There was no university specific recommendation in the publication, but it was determined by the author that this entire recommendation could be applied to the Division. The Division Administrator reviewed the current Institutional policies and procedures and determined, by Divisional needs, and the best

[64] NAP. *Research Universities and the Future of America*, 72-73

practices that were obtained and described in the Chapter 4 Data, that there were areas that policies and procedures were particularly lacking. [65]

Application of Recommendation #1. The areas that were specifically targeted in the Division, based on Divisional Administrative Leadership review, were travel, hiring and termination of personnel, cost overruns on accounts, use of discretionary funds, and appointments of postdocs or faculty. The establishment of budgets and negotiations with the Department for non-sponsored funding in areas that cannot be covered by sponsored funding were conducted. Policies and procedures were drafted and implemented for the Division by Divisional Administrative Leadership in specified areas which included travel, cost overruns, use of discretionary funds, and appointments of postdocs and faculty. New policies and procedures in these areas were distributed via email and summarized at a monthly faculty meeting.

A procedure list was not drafted for the hiring and termination of personnel as there was an unclear consensus between the Administrative Coordinators in the various areas of the Division as to best practices involved. There was also a resistance by the Administrative Coordinators to the creation of documented procedures and checklists.

Results of the application of Recommendation #1. The new policies and procedures were distributed via email and summarized at a monthly faculty meeting. While the Administrative Staff was onboard with the implementation of the new policies and procedures, the Divisional Faculty generally ignored them and then were surprised when there was administrative push-back. This also created a time-sink for the staff to explain the new policies multiple times.

[65] Ibid, 73-74.

During the discussions between Divisional Administrative Leadership and the Department Leadership regarding if the Division can receive non-sponsored funding from the Department to cover administrative costs, cost sharing, and other areas that are not or cannot be covered by sponsored funding, the Division was told by the Department that they had to use their discretionary account reserves. However, these discretionary reserves are not replenished annually and have finite funds. When this was pointed out to the Department, the Department remained silent on the matter. The Division brings in approximately three million dollars in Indirect Costs annually to the Institution.

Committee on Research Universities and the Board of Higher Education and Workforce's Recommendation #2

> "Provide greater autonomy for public research universities so that these institutions may leverage local and regional strengths to compete strategically and respond with agility to new opportunities. At the same time, restore state appropriations for higher education, including graduate education and research, to levels that allow public research universities to operate at world-class levels."[66]

Discussion of Recommendation #2. This is one recommendation that is not applicable and could not be used in this project as the Institution in which the Division lies is a private institution. Therefore, there are no results for pertaining to this recommendation.

[66] Ibid, 83.

Committee on Research Universities and the Board of Higher Education and Workforce's Recommendation #3

> "Strengthen the business role in the research partnership, facilitating the transfer of knowledge, ideas, and technology to society and accelerate "time to innovation" in order to achieve our national goals."[67]

Discussion of Recommendation #3. The implementation recommendation for universities from the publication states that universities must "improve management of intellectual property to improve technology transfer". The key point from this recommendation is to improve the management of intellectual property and improvements to technology transfer will follow. It was determined by the author that this recommendation could be applied to the Division. While Divisional Administrative Leadership did not have a relationship with the University's Technology Transfer Office (TTO), it was decided that the Division should create a relationship with the TTO, by keeping the Divisional Faculty informed of the Institutional Intellectual Property (IP) policies, any IP issues they may encounter, and any benefits and impediments in dealing with industry on IP issues.[68]

Application of Recommendation #3. Divisional Leadership met with the TTO. To make the Divisional faculty aware of the Institutional IP policies, key points were presented at faculty meetings, including a link to the Institutional IP policy. There were additional presentations to faculty concerning patent and copyright law.

Results of the application of Recommendation #3. The meeting with Divisional Leadership and the TTO created and solidified the relationship between the two units. This resulted inappropriate TTO contacts being provided to the Division and the TTO including the

[67] Ibid, 92.
[68] Ibid.

Divisional Administrative Leadership in TTO quarterly notification emails. One of these emails included the quarterly distribution of TTO's list of royalty distributions, resulting in the Division obtaining sufficient information to able to reconcile royalty distribution funds to the proper Divisional Inventor accounts.

To make the Divisional Faculty aware of the Institutional IP policies, key points were presented at faculty meetings, including a link to the Institutional IP policy. There were additional presentations to faculty concerning patent and copyright law. There was positive feedback from the faculty regarding the IP presentations, resulting in faculty communicating their satisfaction to Divisional Administrative Leadership that the information presented would be used in their future relationships with industry.

Committee on Research Universities and the Board of Higher Education and Workforce's Recommendation #4

> "Increase university cost-effectiveness and productivity in order to provide a greater return on investment for taxpayers, philanthropists, corporations, foundations, and other research sponsors."[69]

Discussion of Recommendation #4. The key points from the recommendation were to increase cost-effectiveness and productivity, and to reduce budgetary waste on auxiliary costs to achieve greater return on investment for sponsors. The implementation recommendation for universities from the publication recommends that "research universities should set and achieve bold goals in cost-containment, efficiency, and productivity in business operations and academic programs".[70] It was determined that this recommendation could be applied to the Division.

[69] Ibid, 101.
[70] Ibid.

Divisional Administrative Leadership reviewed the current financial accounts and reports, and determined by the best practices obtained and described in Chapter 4 Data, that there were areas for improvement. The Division could implement better financial reporting for faculty, administrative staff, financial staff, educate faculty on how to read financial reports, and train staff on how to monitor the funding more closely to increase productivity and reduce waste.

Application of Recommendation #4. The Institution currently creates formatted financial reports to send to the PIs regarding their sponsored research accounts and any non-sponsored accounts that they are responsible for. However, several of the Divisional Faculty had communicated that they were not receiving these reports. Divisional Sponsored Financial Analysts met with all the Divisional Faculty to confirm that they were receiving the financial reports, to determine if certain faculty needed additional financial reports, and to discuss any overspending that may have been occurring. It was discovered during account reconciliation that certain budget categories on sponsored projects were overspent. In meeting with Divisional Faculty, it was communicated by to the Divisional Sponsored Financial Analysts, that the Research Staff in the laboratories were not documenting the supply inventory, and thus research supplies were ordered when they appeared short when in reality they had a surplus supply of inventory. Additionally, animal care and caging costs were not being properly associated with the correct animal protocol and were being charged to the wrong project. Training was provided so that these problems did not reoccur.

Presentations were given at faculty meetings to go over budget basics, how to plan for projects, how to have the budget reflect the needs of the project, and how to manage a project budget. The lead Divisional Sponsored Financial Analyst also started a monthly “office hours”, which was a set day and time where faculty could drop by if they had any questions.

Results of the application of Recommendation #4. The Divisional Faculty that had communicated that they were not receiving the reports, started receiving them. It was communicated to Divisional Administrative Leadership that all faculty were now receiving financial reports. From the meetings between the Divisional Sponsored Financial Analysts and the Divisional Faculty, it was determined by Divisional Administrative Leadership and the Divisional Sponsored Financial Analysts that the Divisional Faculty did not need additional financial reports and the Institutional financial reports were sufficient. There was one exception however, which was the Division Director. Since the Division Director has responsibility for significant personal sponsored accounts, non-sponsored personal accounts, and non-sponsored Divisional accounts, he requested a composite financial report for ease of reading and discussion during meetings. His request was granted.

After the presentations regarding budgets were given at the Divisional faculty meetings, the information presented was not reflected in subsequent sponsored proposals submitted by Divisional Faculty. The overspending on accounts was also still occurring. Thus, it was determined by the Divisional Administrative Leadership that a more proactive approach is needed. What the approach is has yet to be determined.

Additionally, none of the faculty dropped by the lead Divisional Sponsored Financial Analyst for her monthly “office hours”, which she maintained for four months before stopping.

Committee on Research Universities and the Board of Higher Education and Workforce's Recommendation #5

> "Create a 'Strategic Investment Program' that funds initiatives at research universities critical to advancing education and research in areas of key national priority."[71]

Discussion of Recommendation #5. The key points extrapolated from this recommendation were to develop a plan to fund certain projects that are critical to advancement of education and research. The implementation recommendation for universities was that "universities should compete for funding under these initiatives, bringing in partners—states, business, philanthropy, others—that will support projects by providing required matching funds".[72] It was determined that this recommendation need to be revised slightly for application to the Division as some of the funding in support of these projects needed to come from the Divisional non-sponsored funds. This was due to the flexibility of non-sponsored funds and lack of restriction in use. However, Division Leadership determined that they may also need to provide cost sharing in order to bring in industry partners. This was reinforced by the Division Director who stated that projects critical for advancement may receive institutional funding as pilot studies which can be used in developing research that can then be proposed in new grant applications. The Division Administrator reviewed the best practices obtained and described in Chapter 4 Data, to create a "strategic investment program".[73]

Application of Recommendation #5. The Division Director received significant start-up funds from the Institution upon accepting the position within the Division. A portion of these funds were allocated for pilot projects. A plan was designed as a "strategic investment program"

[71] Ibid, 110.
[72] Ibid.
[73] Ibid.

for Divisional Faculty to submit a budget and a statement of work for approval by Divisional Leadership for access to the funds for pilot projects.[74]

Due to the many translational research projects that have led basic research into commercialization in the Division, many industry manufacturers have come to the Division to partner for clinical trials. A plan was not created to search out new partnerships with industry as they have come to the Division.

Additionally, several patients who have benefitted from the Division's commercialized discoveries made monetary gifts to the Division through the Institution's Development Office. A plan was not created to bring in donors as they were already coming to the Division. The funds were used for pilot projects.

Results of the application of Recommendation #5. The funded pilot projects were typically in the twenty-five thousand dollar range. One of these pilot projects was then used in a NIH research grant application and that project was recently awarded a NIH research grant.

Committee on Research Universities and the Board of Higher Education and Workforce's Recommendation #6

> "The federal government and other research sponsors should strive to cover the full costs of research projects and other activities they procure from research universities in a consistent and transparent manner."[75]

Discussion of Recommendation #6. The key point from this recommendation states that sponsors should cover the "full cost" of research projects, including administrative (overhead)

[74] Ibid.
[75] Ibid, 122.

costs.[76] There is no university specific recommendation. It was determined by the author that this recommendation would need to be adjusted to apply to the Division as the Division does not have the authority for research sponsors to recover their own administrative costs as that is determined by the Department and the Institution. Divisional Administrative Leadership reviewed the current funds received from and Department, and determined by the best practices obtained and described in Chapter 4 Data, that there were areas for improvement.[77]

Application of Recommendation #6. Divisional Administrative Leadership determined that to that administrative costs are to be included when allowable in all grant and contract proposals. In addition it was determined that the Division would be able to recover an equitable share of the IDC for Divisional research projects from the funds the Department receives from the Institution. As per the application of Recommendation #1, discussions are underway with the Department for the Division to receive non-sponsored funding to cover administrative costs, cost sharing, and other areas that are not or cannot be covered by sponsored funding.

Results of the application of Recommendation #6. The only circumstances where administrative costs that are not recovered in the IDC rate could be included as a direct cost, were on industry clinical trials and a NIH Center grant application. Divisional Administrative Leadership received pushback from Divisional Faculty for these inclusions. For the industry clinical trials, the Divisional Faculty fearing industry sponsor rejection due to the "extra cost", did not want to include administrative costs. It was also difficult to include the Institution's federally negotiated rate on similar proposals as the Divisional Faculty thought the inclusion would make the total cost too high. An explanation on what IDC was and why it's important was given to the Faculty involved in those proposals. A follow-up presentation was then given at a

[76] Ibid.
[77] Ibid.

Divisional Faculty meeting offering explanation, but it did not change the perspective for those faculty in subsequent meetings.

As per the results of the application of Recommendation #1, the Department response was silence during the discussions regarding the Division to receive non-sponsored funding to cover administrative costs.

Committee on Research Universities and the Board of Higher Education and Workforce's Recommendation #7

> "Reduce or eliminate regulations that increase administrative costs, impede research productivity, and deflect creative energy without substantially improving the research environment."[78]

Discussion of Recommendation #7. The key points from this recommendation are to reduce regulations that increase the administrative burden and disrupt research productivity. There is no university specific recommendation. It was determined by the author that this recommendation had to be adjusted to be applied as the Division cannot "reduce or eliminate regulations".[79] Divisional Administrative Leadership reviewed the administrative practices of the Division and determined there were areas for improvement from the best practices obtained and described in Chapter 4 Data. The Division Administrator determined that streamlining administrative practices and improving the availability of information required for synergy and

[78] Ibid, 129.
[79] Ibid.

collaborative decision-making could reduce the number of instances where Institutional policies were not followed. .[80]

Application of Recommendation #7. As per the application of Recommendation #1, policies and procedures were drafted and implemented to help streamline administrative practices. These new policies and procedures were distributed via email and summarized at a monthly Divisional Faculty meeting.

A plan for transparency was not implemented as there was a general reluctance for Department Leadership to share any information with the Division. Requests by Divisional Leadership to the Department Leadership to address this were ignored. Furthermore, there was also a general reluctance from the Division Director to share information regarding the administrative or financial status of the Division with Division Faculty and the Department. It was not sufficiently communicated by the Division Director as to the reason for his reluctance towards transparency.

Results of the application of Recommendation #7. As per results of the applications of Recommendation #1, the administrative staff was onboard with the implementation of the new policies and procedures, but the faculty generally ignored them and then were surprised when there was administrative push-back when the new policies and procedures were not followed.

[80] Ibid.

Committee on Research Universities and the Board of Higher Education and Workforce's Recommendation #8

> "Improve the capacity of graduate programs to attract talented students by addressing issues such as attrition rates, time to degree, funding, and alignment with both student career opportunities and national interests."[81]

Discussion of Recommendation #8. The key points from this recommendation and the university specific recommendation is for universities to "restructure doctoral education to enhance pathways for talented undergraduates", improve the education "pipeline", and prepare graduates for careers beyond their universities.[82] It was determined that this recommendation had to be revised to be applied to the Division as the Division does not provide doctoral education. However, the Division has a NIH T32 training grant for postdoctoral researchers which is up for renewal. Divisional Administrative Leadership reviewed the Divisional NIH T32 training grant and determined by the best practices obtained and described in Chapter 4 Data, that there were programmatic changes that could be made to better attract and train new students.[83]

Application of Recommendation #8. The Divisional NIH T32 training grant was due in May 2017, and if renewed, this will be the eleventh year for the grant. There is a concern by the Division Administrator that the grant may not be renewed. The Division Administrator recommended some programmatic changes to better attract and train postdoctoral researchers and to set up a team to collectively put together a well-constructed renewal application with the hope of a renewal award.

[81]Ibid, 137.
[82]Ibid.
[83]Ibid.

Results of the application of Recommendation #8. There was a discussion between Divisional Administrative Leadership and the Division Director regarding improvement of the NIH T32 program. The Division Director was not interested in programmatic changes or the T32 in general. Furthermore, the Division Administrator's request for a meeting to set up a team to help construct the renewal application, was turned down.

Committee on Research Universities and the Board of Higher Education and Workforce's Recommendation #9

> "Secure for the United States the full benefits of education for all Americans, including women and underrepresented minorities, in science, mathematics, engineering, and technology."[84]

Discussion of Recommendation #9. The key points from this recommendation and the university specific recommendation is for universities is to increase access for all students, at all levels, and to include women and underrepresented minorities in Science, Technology, Engineering and Math (STEM) education. It was determined that it would be difficult to apply this recommendation at the Divisional level as it has been hard in the past to recruit and retain women and underrepresented minorities. However, the Division Administrator reviewed the current personnel to analyze the number of women and underrepresented minorities in research positions in the Division and determined by the best practices obtained and described in Chapter 4 Data, that there were areas for improvement. [85]

[84] Ibid, 157.
[85] Ibid, 157-158.

Application of Recommendation #9. There is a good balance of men versus women in the Division and efforts have been made by Division Director and the Divisional Administrator to recruit women into the Division. The field of Radiology is predominately dominated by men, so there is a Department-wide effort to include women.

Divisional Administrative Leadership determined that the Division had the ability to increase awareness of diversity, to include underrepresented minorities, and to educate the investigators on opportunities to apply for diversity supplements. However, there is a predominance of foreign nationals in the Division. Unfortunately, foreign nationals are not considered underrepresented minorities, nor are any of the Americans within the Division, and thus the Division is not eligible for diversity supplements provided by NIH. This issue was discussed with the Division Director who was asked to formulate a plan, but no plan has been formulated at this time.

Results of the application of Recommendation #9. Due to the efforts made by Division Director and the Division Administrator to recruit women into the Division, since the fall of 2015, almost half of the new personnel to the Division are women.

Committee on Research Universities and the Board of Higher Education and Workforce's Recommendation #10

> "Ensure that the United States will continue to benefit strongly from the participation of international students and scholars in our research enterprise."[86]

[86] Ibid, 170.

Discussion of Recommendation #10. The key point from the recommendation is the benefit from the inclusion foreign nationals in the research enterprise. There is no university specific recommendation. It was determined that this recommendation could be applied to the Division. The Division Administrator reviewed the nationalities of current personnel, and determined by the best practices obtained and described in Chapter 4 Data, that there was no area for improvement. In the Division, the international presence is so strong that there are very few American Citizens working there. This recommendation was then revised to encourage a balance of American and foreign personnel and to take this imbalance into consideration when hiring. [87]

Application of Recommendation #10. There is a predominance of foreign nationals in the Division, with a prevalence of persons from the following countries: India, China, and South Korea. For research staff and administrative staff for the Division, the majority of the personnel are American citizens. This issue was discussed with the Division Director.

Results of the application of Recommendation #10. This issue was discussed with the Division Director who was asked to formulate a plan, but no plan has been formulated at this time.

Summary of the Results of the Application of the Ten Recommendations

There were some common results from the recommendations. Primarily, that when policies were drafted in areas where there were no policies, generally the Divisional Staff, but not the Divisional Faculty, followed them. The Department was also reluctant to share information or give the Division non-sponsored funds for operating costs, even though the

[87] Ibid.

Division brought in IDCs to the Institution. There was also a predominance of foreign nationals, a balance between genders, and a lack of underrepresented minorities.

Some of the results only occurred because of specific recommendations that came out of this project. As an example, the Divisional Faculty's interest in topics regarding the TTO and commercialization of discoveries was favorable. However, there remains a lack of accountability when it comes to project spending. There is also a Divisional Faculty fear of charging administrative costs and using a high IDC rate on sponsored proposals. There was also a lack of Divisional interest in the T32 training grant.

Chapter 6

Conclusion

The ten recommendations from the National Academies' publication "Research Universities and the Future of America: Ten Breakthrough Actions Vital to Our Nation's Prosperity and Security", were able to be applied or applied with adjustment, to the Division in order to improve the research administration tasks for the Division. The only exception was Recommendation #2, which was not applicable to the Institution. The application of the recommendations was created by the Division Administrator by utilizing secondary and tertiary data sources that are discussed in Chapter 4 Data.

At the end of the project, an evaluation survey created by the author, was sent to all personnel in the division to examine the results of the capstone project by assessing the status of the Division through respondent perceptions of research administration issues specifically related to job satisfaction, job contributions, innovation, and good stewardship of sponsored research. However, only twenty-five percent of the recipients participated in the survey. This makes the survey outcome unreliable and subject to bias due to the high non-response rate. The responses of the survey should not carry weight in determining the validity of the application process of applying the recommendations.[88] For many of the recommendations, the Divisional Administrative Staff were onboard with these changes, while the Divisional Faculty were not. Additionally, none of these recommendations were able to affect change in the Department—Divisional relationship.

The conclusion to this project is that even with a high level of effort and knowledge put into the creation and implementation of best practices, these efforts become moot as the majority

[88] Pew.

of persons involved or affected by the project were not onboard and were not interested in seeing the changes occur.

Furthermore, the low number of participation in the evaluation survey can be viewed as a lack of interest in the Division. Therefore, it is difficult to determine if an overall improvement of the Division occurred as a result of the application of the National Academies' Committee on Research Universities and Board on Higher Education and Workforce's recommendations.

While these recommendations were researched and concluded to be the best practices to create scenarios to affect positive change in the research administration tasks in the Division, there was a lack of connection between the Divisional Faculty and the Divisional Administration. It is difficult to determine if additional presentations and explanations of the why these revisions were being implemented, would have changed the Divisional Faculty perspective.

Another possibility for lack of Divisional Faculty engagement could be due to lack of accountability. There is not an incentive for them to follow any policies as there are no perceived negative consequences, which includes overspending of sponsored awards. A permanent Department Chair has still not been selected by the Institution, so this lack of accountability by the Faculty could be due to a lack of Department Faculty Leadership.

The lack of Department engagement with the Division, especially in the areas regarding finances is concerning, as the Division is in the Department, and the Division's finances directly effects the Department's finances. It is unclear if this lack of interest by the Department is due to personal politics, a lack of knowledge, or a disinterest by administrative leadership. While the ten recommendations were able to be applied to the Division and could be applied to other divisions, departments, and institutions to improve the research administration tasks, it is the

author's determination that the environment, administration, and faculty engagement would be a deciding factor in the success of the application of these recommendations.

Chapter 7

Recommendations for Further Study

In the area of Faculty engagement and accountability, further study is warranted to see if additional presentations and explanations for the presence of policies will garner better faculty engagement. There should also be further study to see if providing direct negative consequences and accountability will cause Divisional Faculty to follow policies and conduct better stewardship of both sponsored and non-sponsored funds. Once a permanent Department Chair is selected, this will likely change the environment of the Department and the Division, so further study may not be warranted due to new faculty leadership.

There should also be further study into alternative ways other than a multiple choice online survey to evaluate a project, and in the best ways to avoid low participation.

Appendix: Evaluation Survey and Results

RESPONDENTS: 23 of 23 | Export All | Share All

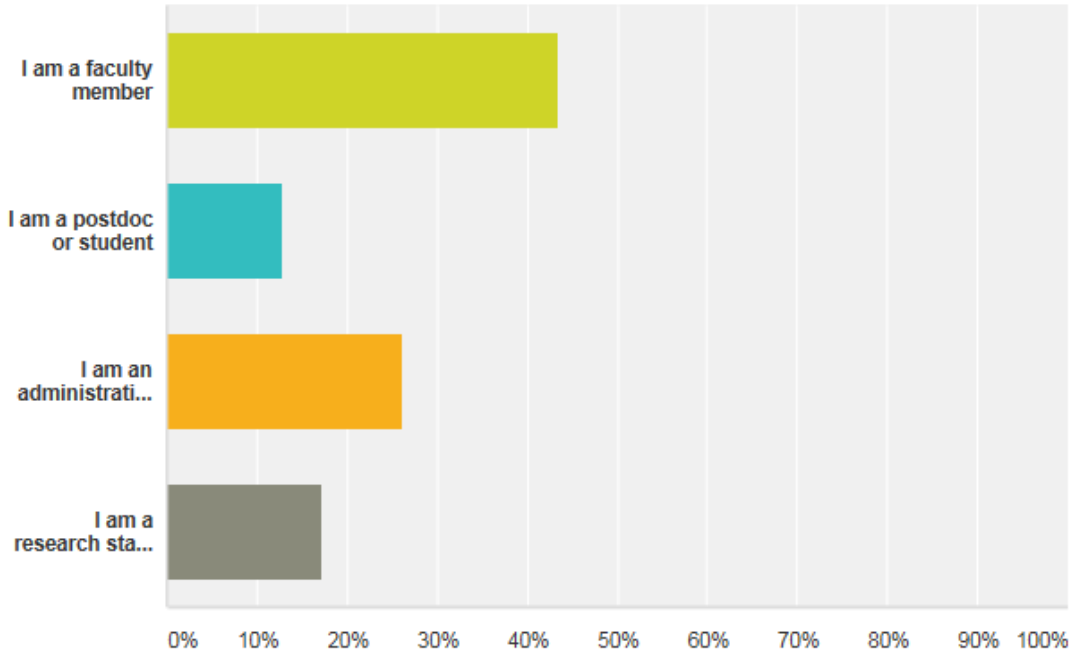
Question Summaries | Data Trends | Individual Responses

PAGE 1

Q1 | Customize | Export

What is your position at [redacted] University?

Answered: 23 Skipped: 0

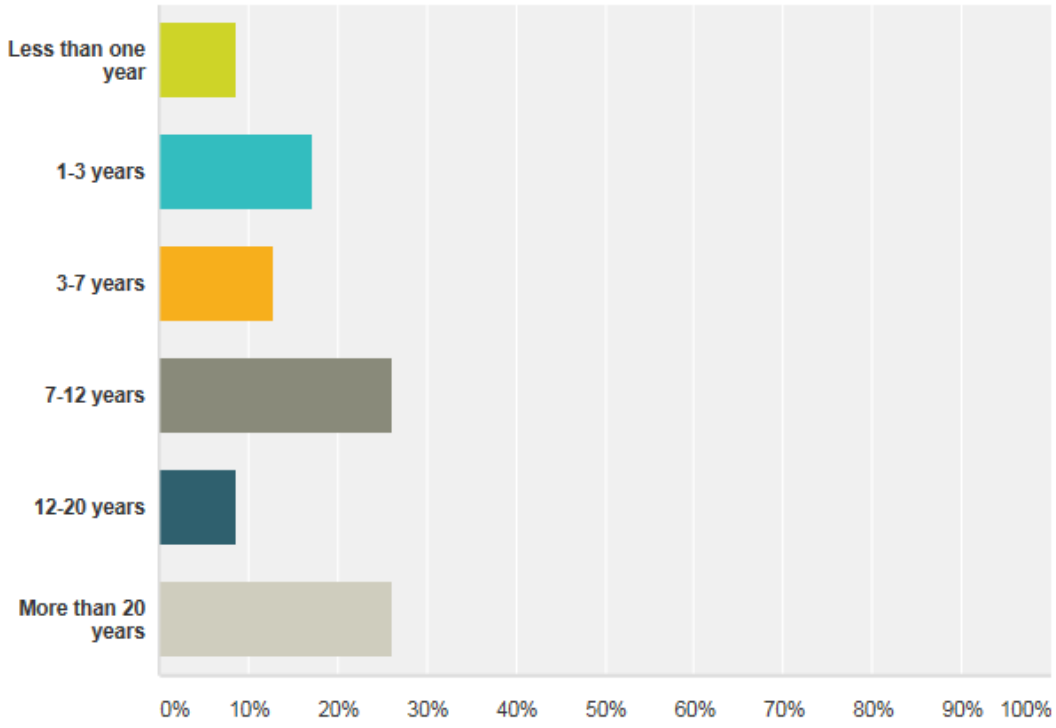


Answer Choices	Responses	
I am a faculty member	43.48%	10
I am a postdoc or student	13.04%	3
I am an administrative or financial staff member	26.09%	6
I am a research staff member	17.39%	4
Total		23

Q2 Customize Export

How long have you worked at [redacted] University?

Answered: 23 Skipped: 0

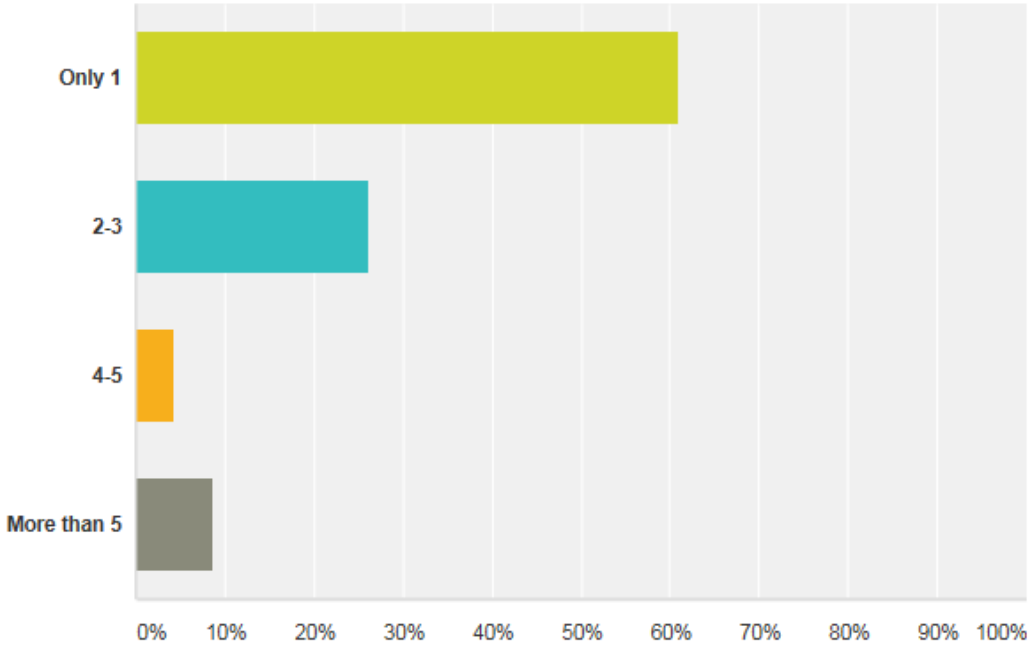


Answer Choices	Responses	
Less than one year	8.70%	2
1-3 years	17.39%	4
3-7 years	13.04%	3
7-12 years	26.09%	6
12-20 years	8.70%	2
More than 20 years	26.09%	6
Total		23

Q3 Customize Export

How many departments or divisions have you worked in at [redacted] University?

Answered: 23 Skipped: 0

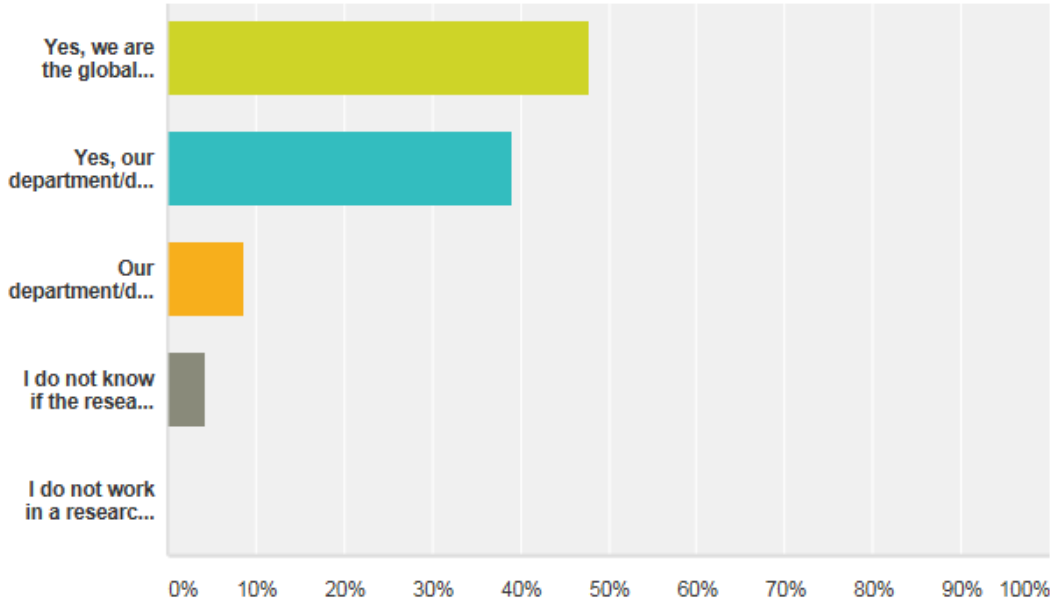


Answer Choices	Responses	
Only 1	60.87%	14
2-3	26.09%	6
4-5	4.35%	1
More than 5	8.70%	2
Total		23

Q4 Customize Export

Do you think the research in the Division is innovative?

Answered: 23 Skipped: 0



Answer Choices	Responses	
Yes, we are the global leaders in our field	47.83%	11
Yes, our department/division is innovative, but we are not the leaders in the field	39.13%	9
Our department/division contributes to the field, but is not as innovative as they could be	8.70%	2
I do not know if the research in my department/division is innovative	4.35%	1
I do not work in a research department/division	0.00%	0
Total		23

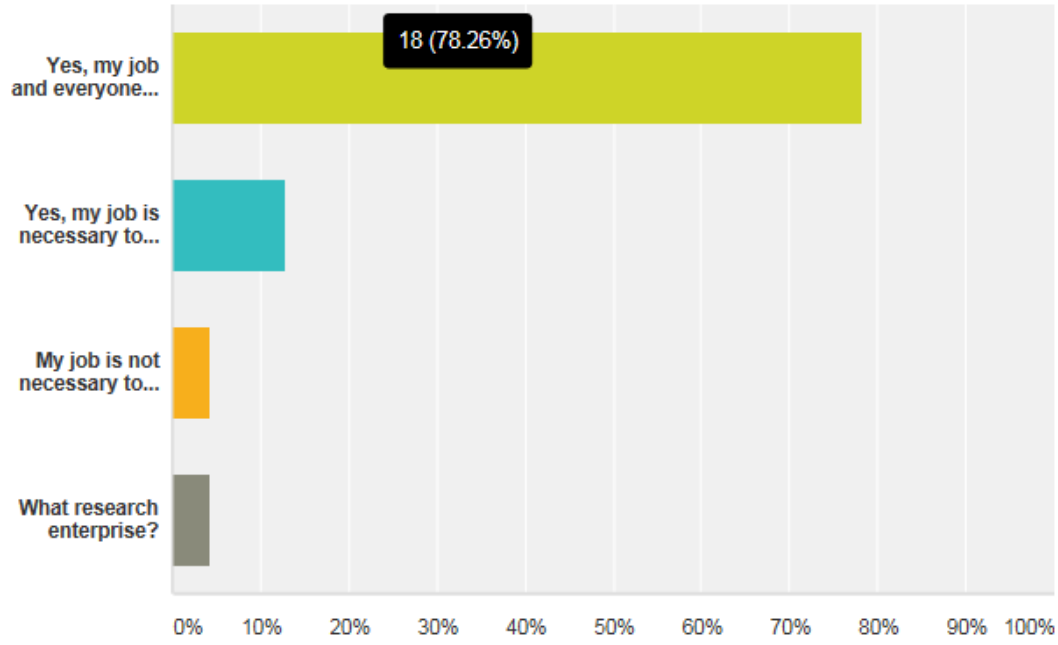
Comments (0)

Q5

Customize Export

Do you understand how you and your coworkers/colleagues contribute to the research enterprise at [redacted] University?

Answered: 23 Skipped: 0

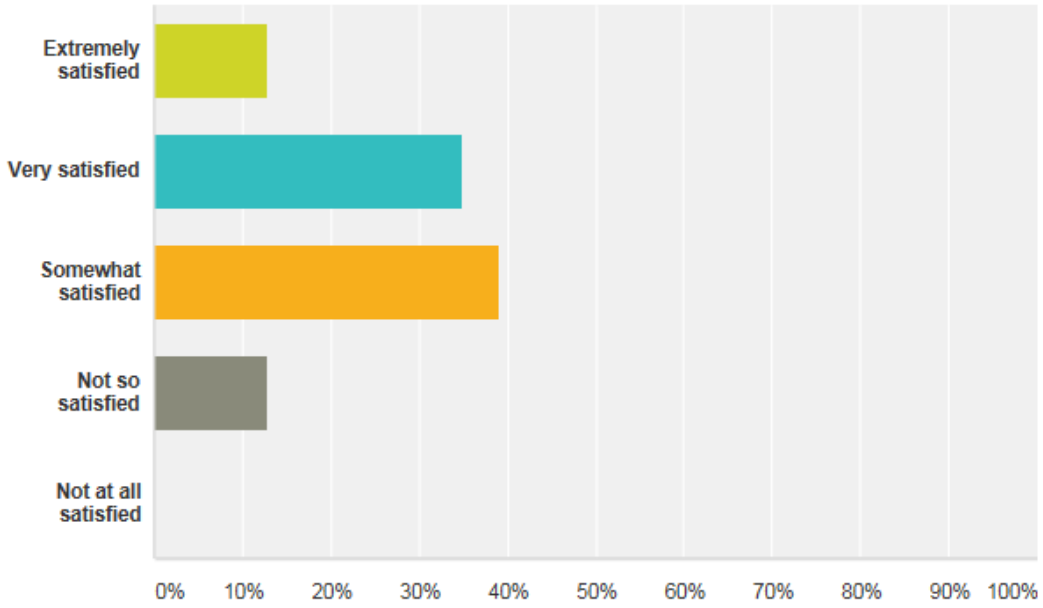


Answer Choices	Responses	
Yes, my job and everyone else's is necessary to the research enterprise	78.26%	18
Yes, my job is necessary to the research enterprise, but many other positions are not	13.04%	3
My job is not necessary to the research enterprise, but many other positions are	4.35%	1
What research enterprise?	4.35%	1
Total		23

Q6 Customize Export

How satisfied are you with the Department Leadership when it comes to investing in the research enterprise?

Answered: 23 Skipped: 0

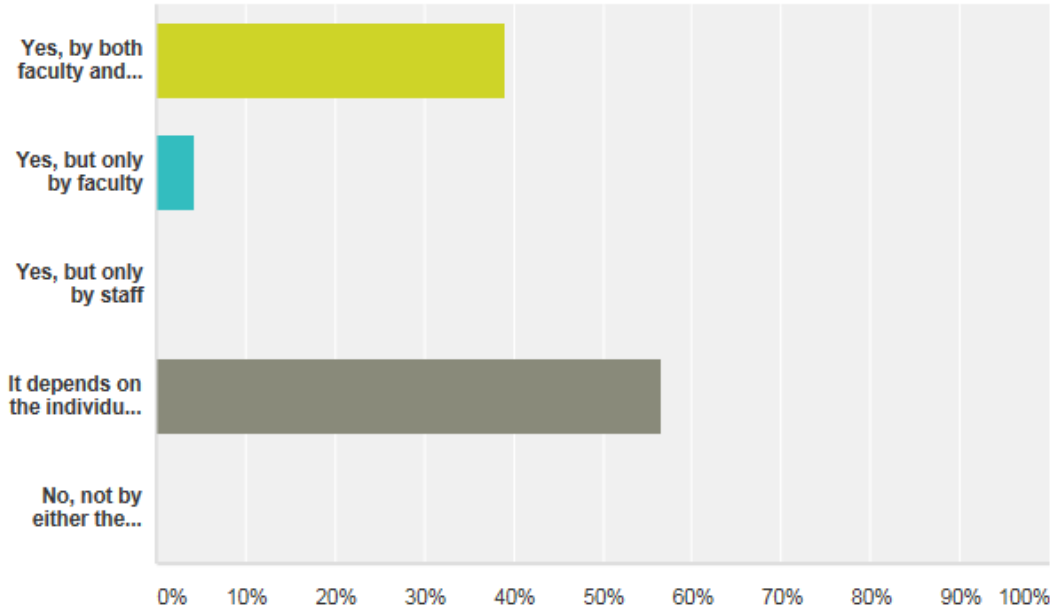


Answer Choices	Responses	
Extremely satisfied	13.04%	3
Very satisfied	34.78%	8
Somewhat satisfied	39.13%	9
Not so satisfied	13.04%	3
Not at all satisfied	0.00%	0
Total		23

Q7 Customize Export

Do you feel that there is good stewardship of sponsored research funding in the Division?

Answered: 23 Skipped: 0



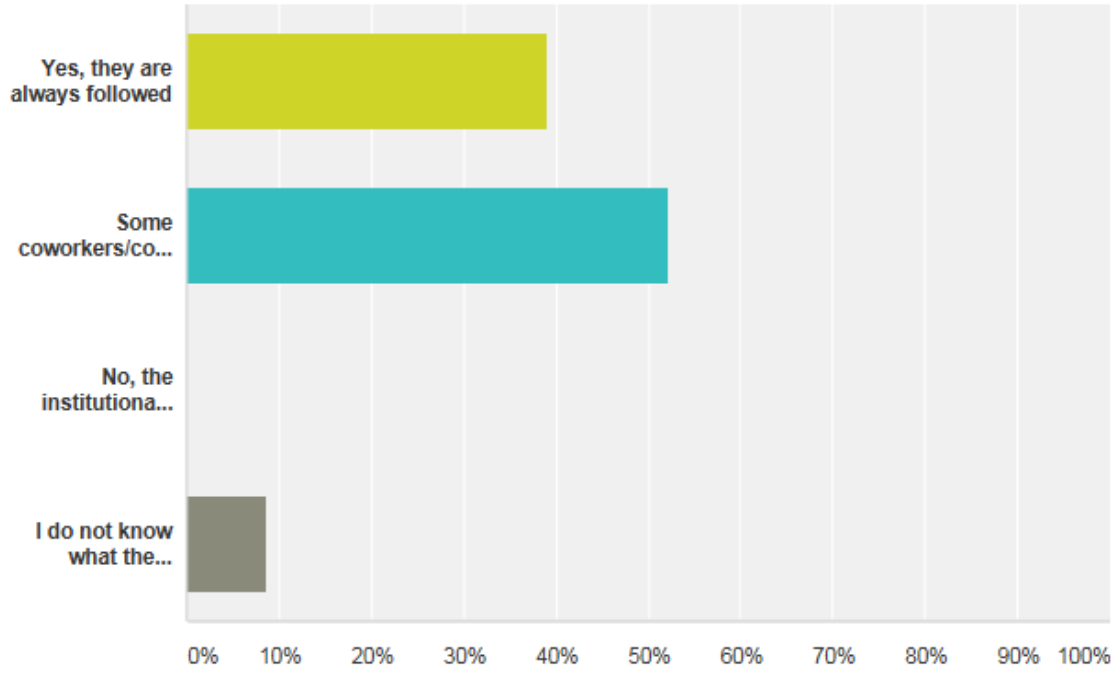
Answer Choices	Responses	
Yes, by both faculty and staff	39.13%	9
Yes, but only by faculty	4.35%	1
Yes, but only by staff	0.00%	0
It depends on the individual situation	56.52%	13
No, not by either the faculty or the staff	0.00%	0
Total		23

Q8

Customize Export

Are institutional policies followed in the Department/Division?

Answered: 23 Skipped: 0

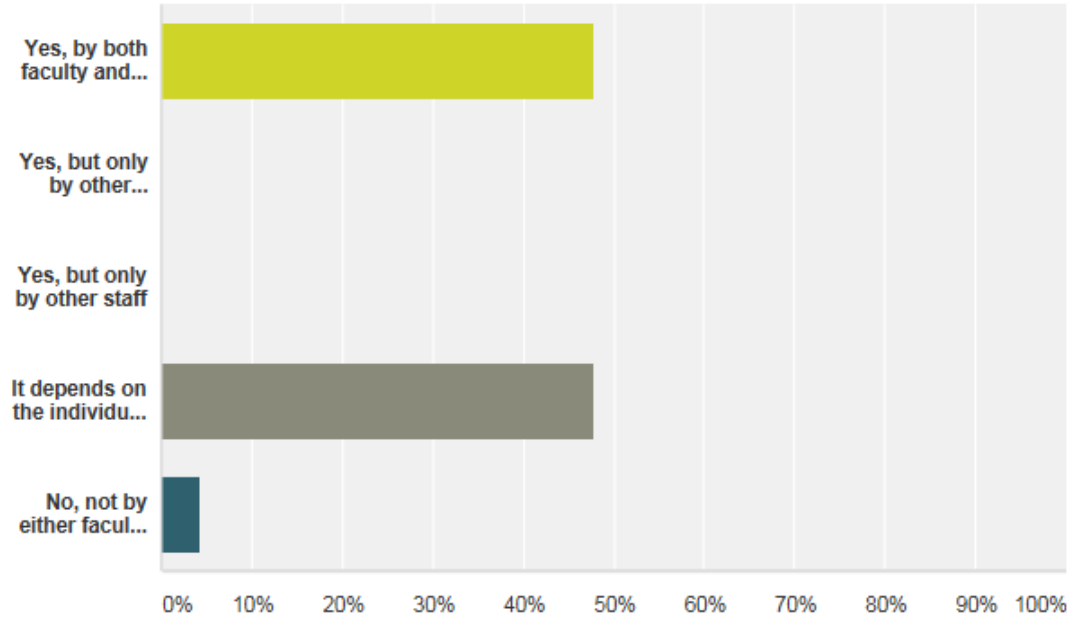


Answer Choices	Responses	
Yes, they are always followed	39.13%	9
Some coworkers/colleagues follow them, while others do not	52.17%	12
No, the institutional policies are not consistently followed by the majority of the department/division	0.00%	0
I do not know what the institutional policies are	8.70%	2
Total		23

Q9 Customize Export

Do you feel respected at work?

Answered: 23 Skipped: 0

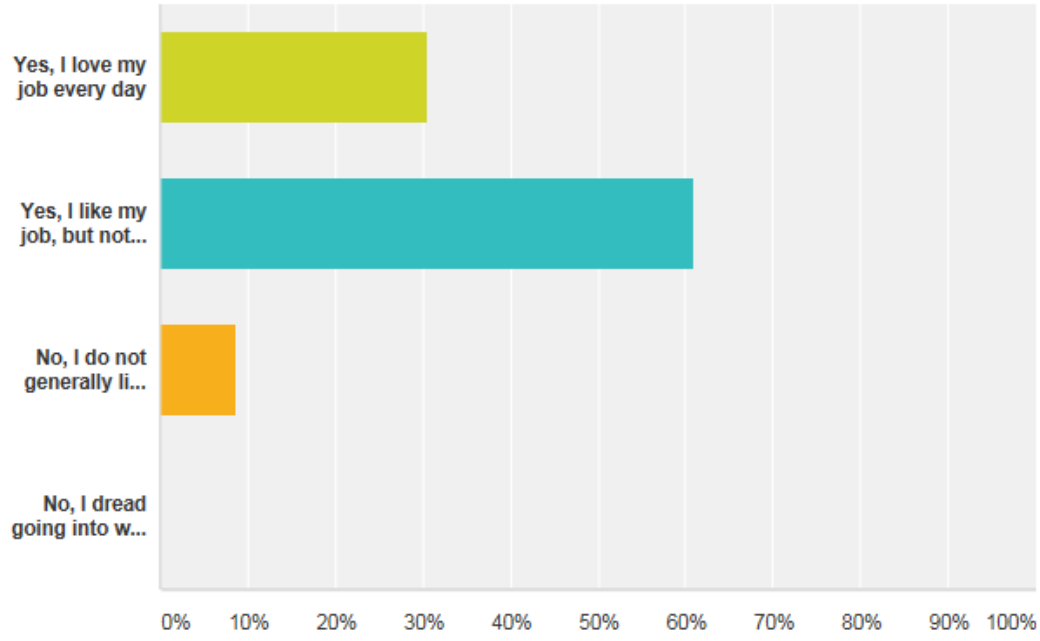


Answer Choices	Responses	
Yes, by both faculty and staff	47.83%	11
Yes, but only by other faculty	0.00%	0
Yes, but only by other staff	0.00%	0
It depends on the individual person	47.83%	11
No, not by either faculty or staff	4.35%	1
Total		23

Q10 Customize Export

Do you like your job at [redacted] University?

Answered: 23 Skipped: 0



Answer Choices	Responses	
Yes, I love my job every day	30.43%	7
Yes, I like my job, but not every day	60.87%	14
No, I do not generally like my job every day	8.70%	2
No, I dread going into work every day	0.00%	0
Total		23

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